

- 1 1. A method of encrypting a television signal, comprising:
- 2 encrypting an audio portion of the television signal according to a first
- 3 encryption method to produce a first encrypted audio portion and according to a
- 4 second encryption method to produce a second encrypted audio portion; and
- 5 combining an unencrypted video portion of the television signal with the first
- 6 and second encrypted audio portion.
- 7
- 8 2. The method according to claim 1, wherein the television signal is a digital
- 9 television signal, and wherein the encrypting comprises encrypting packets
- 10 identified as audio packets.
- 11
- 12 3. The method according to claim 2, wherein the digital television signal
- 13 complies with an MPEG standard, and wherein the audio packets are identified for
- 14 encryption by a packet identifier (PID).
- 15
- 16 4. The method according to claim 2, wherein the digital television signal
- 17 complies with a digital satellite service (DSS) transport standard, and wherein the
- 18 audio packets are identified for encryption by a service channel identifier (SCID)
- 19
- 20 5. The method according to claim 2, wherein audio packets encrypted
- 21 according to the first encryption method are assigned a first packet identifier and
- 22 audio packets encrypted according to the second encryption method are assigned
- 23 a second packet identifier.
- 24
- 25 6. The method according to claim 5, wherein the first packet identifier and the
- 26 second packet identifier are referenced as primary elementary PIDs in a program
- 27 map table (PMT).
- 28
- 29

1 7. The method according to claim 5, wherein the first packet identifier is
2 referenced as a primary elementary PID in a program map table (PMT) and the
3 second packet identifier is referenced as a secondary elementary PID in the
4 program map table (PMT).

5
6 8. The method according to claim 5, wherein the first encrypted audio portion
7 and the second encrypted audio portion are distributed over one of a terrestrial
8 broadcast system, a satellite system and a cable system.

9
10 9. The method according to claim 8, further comprising distributing system
11 information to provide locating information used to locate the first and second
12 encrypted audio portions.

13
14 10. The method according to claim 9, further comprising encrypting the system
15 information.

16
17 11. An electronic storage medium storing instructions which, when executed on
18 a programmed processor, carry out the method of encrypting a television signal
19 according to claim 1.

20
21 12. An electronic transmission medium carrying an encrypted television signal
22 encrypted by the method according to claim 1.

1 13. A method of encrypting a television signal, comprising:
2 encrypting an audio portion of the television signal according to a first
3 encryption method to produce a first encrypted audio portion; and
4 combining the first encrypted audio portion with an unencrypted video portion
5 of the television signal to produce a partially encrypted television signal.
6

7 14. The method according to claim 13, wherein the television signal is a digital
8 television signal, and wherein the encrypting comprises encrypting packets
9 identified as audio packets.
10

11 15. The method according to claim 14, wherein the digital television signal
12 complies with an MPEG standard, and wherein the audio packets are identified for
13 encryption by a packet identifier (PID).
14

15 16. The method according to claim 13, further comprising distributing the
16 partially encrypted television signal over one of a cable system and a satellite
17 system.
18

19 17. The method according to claim 16, further comprising transmitting system
20 information to provide locating information used to locate the first encrypted audio
21 portion.
22

23 18. The method according to claim 17, further comprising encrypting the system
24 information.
25

26 19. The method according to claim 13, further comprising partially encrypting the
27 unencrypted video portion of the television signal.
28

1 20. An electronic storage medium storing instructions which, when executed on
2 a programmed processor, carry out the method of encrypting a television signal
3 according to claim 13.

4
5 21. An electronic transmission medium carrying an encrypted television signal
6 encrypted by the method according to claim 13.
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1 22. An encrypted television signal for encrypting a television signal having a
2 clear audio portion and a clear video portion, comprising:

3 a first encrypted audio portion, comprising the clear audio portion encrypted
4 under a first encryption method;

5 a second encrypted audio portion, comprising the clear audio portion
6 encrypted under a second encryption method; and

7 an unencrypted video portion.
8

9 23. The encrypted television signal according to claim 22, wherein the television
10 signal is a digital television signal, and wherein the first and second encrypted
11 audio portions comprise encrypted packets identified as audio packets.
12

13 24. The encrypted television signal according to claim 23, wherein the digital
14 television signal complies with an MPEG standard, and wherein the first encrypted
15 audio portion is comprised of packets identified by a first packet identifier (PID),
16 and wherein the second encrypted audio portion is comprised of packets identified
17 by a second packet identifier (PID).
18
19

1 28. A television set-top box, comprising:
2 a receiver receiving a dual partially encrypted television program;
3 a decrypter that receives encrypted audio packets from the receiver and
4 decrypts the encrypted audio packets, the encrypted audio packets being encrypted
5 under a first encryption algorithm; and
6 a decoder that receives and decodes the decrypted audio packets, and that
7 receives and decodes unencrypted video packets to produce a television signal
8 suitable for play on a television receiver.
9

10 29. The apparatus according to claim 26, wherein the receiver further receives
11 and discards audio packets encrypted under a second encryption algorithm.
12
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1 30. A cable system headend, comprising:
2 a first encryption system that encrypts audio packets using a first encryption
3 algorithm;
4 a second encryption system that encrypts audio packets using a second
5 encryption algorithm; and
6 means for distributing a stream of packets over a cable television system,
7 the stream of packets comprising a video packets, audio packets encrypted under
8 the first encryption algorithm, and audio packets encrypted under the second
9 encryption algorithm and system information packets.

10
11 31. The apparatus according to claim 30, wherein the video packets are
12 unencrypted.

13
14 32. The apparatus according to claim 30, wherein the system information
15 packets are unencrypted.

16
17 33. The apparatus according to claim 30, wherein the video packets are partially
18 encrypted.

19
20 34. The apparatus according to claim 30, wherein the system information
21 packets are encrypted.
22
23

1 35. A method of decoding a partially encrypted television signal, comprising:
2 receiving a television signal having an encrypted audio portion and a clear
3 video portion;
4 decrypting the encrypted audio portion to produce a decrypted audio portion;
5 decoding the decrypted audio portion and the clear video portion to produce
6 a decoded television signal.

7
8 36. The method according to claim 35, wherein the decoded signal is suitable
9 for play on a television set.

10
11 37. The method according to claim 35, wherein the encrypted audio portion is
12 identified by a packet identifier (PID) associated with a decryption algorithm used
13 for decrypting the encrypted audio portion.

14
15 38. The method according to claim 35, wherein the television signal further
16 comprises a second encrypted audio portion; and wherein the encrypted audio
17 portion and the second encrypted audio portions are encrypted using two different
18 encryption algorithms.

19
20 39. The method according to claim 38, wherein the encrypted audio portion is
21 identified by a first packet identifier (PID) associated with a decryption algorithm
22 used for decrypting the encrypted audio portion; and wherein the second encrypted
23 audio portion is identified by a second packet identifier (PID) associated with a
24 decryption algorithm used for decrypting the encrypted audio portion.

25
26 40. The method according to claim 39, wherein the first PID is a secondary PID
27 and wherein the second PID is a primary PID.

28
29 41. The method according to claim 39, wherein the first PID is a primary PID and
30 wherein the second PID is a secondary PID.

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- 1 42. The method according to claim 35, carried out in an integrated circuit.
- 2
- 3 43. The method according to claim 35, carried out in an application specific
- 4 integrated circuit.
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- 6 44. The method according to claim 35, carried out in a television device.
- 7
- 8 45. The method according to claim 35, carried out in a television set-top box.

1 46. A method of decoding a partially encrypted television signal, comprising:
2 receiving a television signal having a first encrypted audio portion, a second
3 encrypted audio portion and a clear video portion, the first audio portion being
4 identified by a first packet identifier (PID), and the second audio portion being
5 identified by a second PID;
6 discarding the second encrypted audio portion by PID filtering;
7 decrypting the first encrypted audio portion to produce a decrypted audio
8 portion; and
9 decoding the decrypted audio portion and the clear video portion to produce
10 a decoded signal.

11
12 47. The method according to claim 46, wherein the decoded signal is suitable
13 for play on a television set.

14
15 48. The method according to claim 46, wherein the first PID is a secondary PID
16 and wherein the second PID is a primary PID.

17
18 49. The method according to claim 46, wherein the first PID is a primary PID and
19 wherein the second PID is a secondary PID.

20
21 50. The method according to claim 46, carried out in an integrated circuit.

22
23 51. The method according to claim 46, carried out in an application specific
24 integrated circuit.

25
26 52. The method according to claim 46, carried out in a television device.

27
28 53. The method according to claim 46, carried out in a television set-top box.
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1 54. A method of encrypting a digital television signal, wherein the television
2 signal includes an elementary data stream and system information (SI),
3 comprising:

4 encrypting the SI under a first encryption system;

5 forming a partially encrypted digital television signal comprising:

6 the elementary data stream in an unencrypted form; and

7 the SI encrypted under the first encryption system.
8

9 55. The method according to claim 54, further comprising encrypting the SI
10 under a second encryption system.

11
12 56. The method according to claim 55, wherein the partially encrypted digital
13 television signal further comprises the SI encrypted under the second encryption
14 system.
15

16 57. The method according to claim 54, further comprising distributing the
17 partially encrypted television signal over one of the following: a cable system, a
18 terrestrial broadcast system and satellite system.
19

20 58. The method according to claim 57, wherein the encrypted SI information is
21 distributed in a different band than that used to distribute the elementary data
22 stream in the unencrypted form.
23

24 59. The method according to claim 54, further comprising distributing the
25 partially encrypted television signal over one of the following: a cable system, a
26 terrestrial broadcast system and satellite system.
27

28 60. The method according to claim 59, wherein the encrypted SI information is
29 distributed in a different band than that used to distribute the elementary data
30 stream in the unencrypted form.

1 61. An electronic storage medium storing instructions which, when executed on
2 a programmed processor, carry out the method of encrypting a digital television
3 signal according to claim 54.

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5 62. An electronic transmission medium carrying an encrypted digital television
6 signal encrypted by the method according to claim 54.

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63. A partially encrypted digital television signal, comprising:
an unencrypted elementary data stream; and
system information (SI) encrypted under a first encryption system.

64. The apparatus according to claim 63, further comprising the system
information (SI) encrypted under a second encryption system.

65. The apparatus according to claim 64, wherein the unencrypted elementary
data stream is modulated to a first frequency band and wherein the encrypted SI
is modulated to a second frequency band.

66. The apparatus according to claim 63, wherein the unencrypted elementary
data stream is modulated to a first frequency band and wherein the encrypted SI
is modulated to a second frequency band.

- 1 67. A television set-top box, comprising:
2 a receiver that receives a television signal comprising content and encrypted
3 system information;
4 a decrypter that decrypts the system information; and
5 a decoder that decodes the content.
6
- 7 68. The apparatus according to claim 67, wherein the content is decoded
8 according to the information.
9
- 10 69. The apparatus according to claim 67, wherein the system information
11 includes channel identifier information for identifying the content.
12
- 13 70. The apparatus according to claim 67, wherein the system information is
14 received in an out of band receiver.
15
- 16 71. The apparatus according to claim 68, wherein the system information is
17 received in an in-band receiver.
18

1 72. A method of encrypting a television signal, comprising:
2 encrypting an elementary stream of the television signal according to a first
3 encryption method to produce a first encrypted elementary stream; and
4 encrypting the elementary stream according to a second encryption method
5 to produce a second encrypted elementary stream.
6

7 73. The method according to claim 72, further comprising distributing an
8 unencrypted video portion of the television signal along with the first and second
9 encrypted elementary streams.
10

11 74. The method according to claim 72, wherein the television signal is a digital
12 television signal, and wherein the encrypting comprises encrypting packets
13 identified as one of audio elementary stream packets, video elementary stream
14 packets and system information elementary stream packets.
15

16 75. The method according to claim 74, wherein the digital television signal
17 complies with an MPEG standard, and wherein the elementary stream packets are
18 identified for encryption by a packet identifier (PID).
19

1 76. A method of encrypting a television signal, comprising:
2 encrypting a selected elementary stream of the television signal according
3 to a first encryption method to produce a first encrypted elementary stream; and
4 combining the first encrypted elementary stream with at least one
5 unencrypted elementary stream of the television signal to produce a partially
6 encrypted television signal.

7
8 77. The method according to claim 76, wherein the television signal is a digital
9 television signal, and wherein the encrypting comprises encrypting packets
10 identified as the selected elementary stream packets.

11
12 78. The method according to claim 76, wherein the digital television signal
13 complies with an MPEG standard, and wherein the selected elementary stream
14 packets are identified for encryption by a packet identifier (PID).

15
16 79. The method according to claim 76, further comprising distributing the
17 partially encrypted television signal over one of a cable system, a terrestrial
18 broadcast system and a satellite system.

19
20 80. The method according to claim 76, wherein the television signal is a digital
21 television signal, and wherein the encrypting comprises encrypting packets
22 identified as one of audio elementary stream packets, video elementary stream
23 packets and system information elementary stream packets.

24
25 81. An electronic storage medium storing instructions which, when executed on
26 a programmed processor, carry out the method of encrypting a television signal
27 according to claim 76.

28
29 82. An electronic transmission medium carrying an encrypted television signal
30 encrypted by the method according to claim 76.